CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-32
- After this Amendment: Claims 1-32

Non-Elected, Canceled, or Withdrawn claims: None

Amended claims: 1, 3, 8, 14, 20, 25, and 32

New claims: None

Claims:

1. (Currently Amended) A storage disk, comprising:

a disk sector having a beginning and operable to store data; and

a servo wedge located at the beginning of the disk sector, the servo wedge having a portion that does not include a zero-frequency field and that is detectable during a spin-up of the disk without a prior detection of a zero-frequency field, and the servo wedge operable to provide an initial position of a read-write prior to any read-write operation head relative to the disk after detection of the portion.

2. (Previously Presented) The storage disk of claim 1 wherein:

the disk sector includes a track that is operable to store the data in a data sector; and

the servo wedge is operable to provide the initial position of the read-write head by identifying the track and is operable to identify the track during a subsequent read of the data from or write of the data to the track.

3. (Currently Amended) A storage disk, comprising:

disk sectors;

servo wedges each detectable by a read head upon initial spin-up prior to any read-write operation ~~and identifying a respective disk sector~~ and each detectable by a read head during a read-write operation to identify a respective disk sector; and

no zero-frequency spin-up fields associated with the servo wedges.

4. (Previously Presented) The storage disk of claim 3 wherein:

the disk sectors comprise tracks having data sectors; and

each servo wedge identifies and is located in a respective track.

5. (Previously Presented) A storage disk, comprising:

disk sectors operable to store data;

servo wedges detectable without a zero-frequency field upon an initial spin-up located in the disk sectors and each having a pre-synchronization-mark section with substantially the same bit pattern and length as the pre-synchronization-mark section of the other servo wedges; and

no servo wedge having a pre-synchronization-mark section with a significantly different bit pattern or a significantly different length as compared to the pre-synchronization-mark section of the other servo wedges.

6. (Previously Presented) The storage disk of claim 5 wherein:

the disk sectors comprise tracks having data sectors; and

the servo wedges are located in the tracks.

7. (Original) The storage disk of claim 5 wherein the pre-synchronization-mark sections of the servo wedges lack erase fields.

8. (Currently Amended) A storage disk, comprising:

disk sectors operable to store data;

servo wedges located in the disk sectors and each having a respective location identifier, respective position bursts, and a respective other portion, the other portion of each servo wedge substantially the same as the other portions of all the other servo wedges, the location identifier detectable during a read-write operation and the other portion detectable during a read head positioning operation ~~and detectable during an initial read-write head positioning~~; and

no zero-frequency spin-up fields.

9. (Original) The storage disk of claim 8 wherein the other portions of each servo wedge include a preamble.

10. (Original) The storage disk of claim 8 wherein the others portions of each servo wedge include a servo synchronization mark.

11. (Original) The storage disk of claim 8 wherein the others portions of each servo wedge include a servo address mark.

12. (Original) The storage disk of claim 8 wherein the location identifier of each servo wedge is different from the location identifier of another servo wedge.

13. (Previously Presented) The storage disk of claim 8 wherein the position bursts of each servo wedge are different from the position bursts of another servo wedge.

14. (Currently Amended) A disk-drive system, comprising:

a data-storage disk having a surface, data sectors at respective locations of the surface, and servo wedges that each include respective servo data that identifies the location of a respective data sector;

a motor coupled to and operable to rotate the disk;

a read head operable to generate a read signal that represents the servo data and having a position with respect to the surface of the data-storage disk;

a read-head positioning circuit operable to move the read head over the surface of the disk; and

a servo circuit coupled to the read head and to the read-head positioning system, the servo circuit including,

a servo channel operable to recover the servo data from the read signal, and

a processor coupled to the servo channel and operable to detect one of the servo wedges without a zero-frequency field during spin up operation of the disk while or after the disk attains an operating speed but before the servo channel recovers servo data from any other of the servo wedges during a read operation.

15. (Original) The disk-drive system of claim 14 wherein:

the servo channel is operable to recover the servo data from the detected servo wedge; and

the servo circuit is operable to,

determine an initial position of the read head from the recovered servo data, and

provide the initial position to the read-head positioning circuit.

16. (Original) The disk-drive system of claim 14 wherein the servo channel is operable to recover the servo data from the detected servo wedge and to provide the location of the respective data sector to the read-head positioning circuit.

17. (Original) The disk-drive system of claim 14 wherein:

the servo channel is operable to recover the servo data from the detected servo wedge and to provide the location of the respective data sector to the read-head positioning circuit; and

the read-head positioning circuit is operable to determine an initial position of the read head from the location of the respective data sector.

18. (Original) The disk-drive system of claim 14 wherein the read-head position circuit and the servo circuit are unable to determine the position of the read head before the processor detects the one servo wedge.

19. (Original) The disk-drive system of claim 14 wherein the read head comprises a read-write head.

20. (Currently Amended) A disk-drive system, comprising:

a data-storage disk having a surface, a data sector at a location of the surface, and a servo wedge including servo data that identifies the location of the data sector;

a motor coupled to and operable to rotate the disk;

a read head operable to generate a read signal that represents the servo data and having a position with respect to the surface of the data-storage disk;

a read-head positioning system operable to move the read head over the surface of the disk; and

a servo circuit coupled to the read head and to the read-head positioning system, the servo circuit including,

a servo channel operable to recover the servo data from the read signal before or during a read of and before or during a write to the data sector, and

a processor coupled to the servo channel and operable to detect the servo wedge without a zero-frequency field during a spin up of the disk and prior to any read operation while or after the disk attains an operating speed but before the servo channel recovers any servo data.

21. (Original) The disk-drive system of claim 20 wherein:

the servo channel is operable to recover the servo data from the read signal in response to the processor detecting the servo wedge; and

the servo circuit is operable to,

determine an initial position of the read head from the servo data recovered in response to the processor detecting the servo wedge, and

provide the initial position to the read-head positioning circuit.

22. (Original) The disk-drive system of claim 20 wherein:

the servo channel is operable to recover the servo data from the read signal in response to the processor detecting the servo wedge; and

the servo circuit is operable to provide the location of the data sector to the read-head positioning circuit.

23. (Original) The disk-drive system of claim 20 wherein:

the servo channel is operable to recover the servo data from the read signal in response to the processor detecting the servo wedge;

the servo circuit is operable to provide the location of the data sector to the read-head positioning circuit; and

the read-head positioning circuit is operable to determine an initial position of the read head from the location of the data sector.

24. (Original) The disk-drive system of claim 20 wherein the read-head position circuit and the servo circuit are unable to determine the position of the read head before the processor detects the one servo wedge.

25. (Currently Amended) A method, comprising:

writing a servo wedge onto a surface of a data-storage disk to define a disk sector that is operable to store file data, the servo wedge including servo data that is detectable during a spin up of the disk, the servo wedge operable to provide an initial position of a head over the disk during or after the spin up of the disk, and the servo wedge operable to identify the disk sector before a read of file data from or a write of file data to the disk sector; and

writing onto the surface of the data-storage disk no zero-frequency spin-up field that is associated with the servo wedge, the no frequency spin-up field operable to coordinate positioning of a read head prior to any read or write operation.

26. (Original) The method of claim 25 wherein writing the servo wedge comprises writing the servo wedge at the beginning of the disk sector.

27. (Previously Presented) The method of claim 25 wherein writing the servo wedges comprises writing the servo wedge in a track of the disk sector, the servo data operable to identify the track during an initial positioning of the head and during a read of file data from or write of file data to the track.

28. (Previously Presented) The method of claim 25 wherein writing no spin-up field comprises writing no erase field.

29. (Previously Presented) A method, comprising:

writing a first servo wedge without a zero-frequency spin-up field onto a surface of a data-storage disk to define a first disk sector that is operable to store file data, the first servo wedge including first servo data that is detectable during a spin up of the disk, and the first servo wedge including second servo data that is operable to identify the first disk sector during an initial positioning of a head over the disk and before a read of file data from or a write of file data to the first disk sector; and

writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, the second servo wedge including third servo data that is operable to identify the second disk sector before a read of file data from or a write of file data to the second disk sector.

30. (Previously Presented) A method, comprising:

writing a first servo wedge without a zero-frequency spin-up field onto a surface of a data-storage disk to define a first disk sector that is operable to store file data, the first servo wedge including first servo data that is operable to identify the first disk sector during an initial positioning of a head over the disk and during a read of file data from or a write of file data to the first disk sector;

writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, the second servo wedge including second servo data that is operable to identify the second disk sector during a read of file data from or a write of file data to the second disk sector; and

wherein the second servo data is operable to identify the second disk sector during the initial positioning of the head over the disk.

31. (Previously Presented) A method, comprising:

writing a first servo wedge without a zero-frequency spin-up field onto a surface of a data-storage disk to define a first disk sector that is operable to store file data, the first servo wedge including first servo data that is operable to identify the first disk sector during an initial positioning of a head over the disk and during a read of file data from or a write of file data to the first disk sector;

writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, the second servo wedge including second servo data that is operable to identify the second disk sector during a read of file data from or a write of file data to the second disk sector; and

wherein the second servo data is unable to identify the second disk sector during the initial positioning of the head over the disk.

32. (Currently Amended) A storage disk, comprising:

data sectors;

servo wedges each detectable by a read head upon initial spin-up and identifying a respective data sector upon a non-spin-up operation; and

no zero-frequency spin-up fields.